Optics and Spectroscopy (English translation of Optika i Spektroskopiya) 2013 vol.115 N6, pages 870-874

Optimum Conditions for Correlation of the Temporal Shape of an Object Pulse with a Stimulated Photon Echo Response in Inhomogeneous External Electric Fields

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Abstract

We have studied the information locking effect and the effect of correlation of the shape of an object laser pulse with the shape of a stimulated photon echo response in the presence of external spatially inhomogeneous electric fields. We have shown that, for the transition 3H 4-3P0 in a LaF3:Pr3+ crystal, one can observe the effect of the correlation of the shape of an object laser pulse with the shape of a stimulated photon echo response and, depending on the scheme of the action of external spatially inhomogeneous electric fields, either the information locking effect or the information destroying effect. © Pleiades Publishing, Ltd., 2013.

http://dx.doi.org/10.1134/S0030400X13120138